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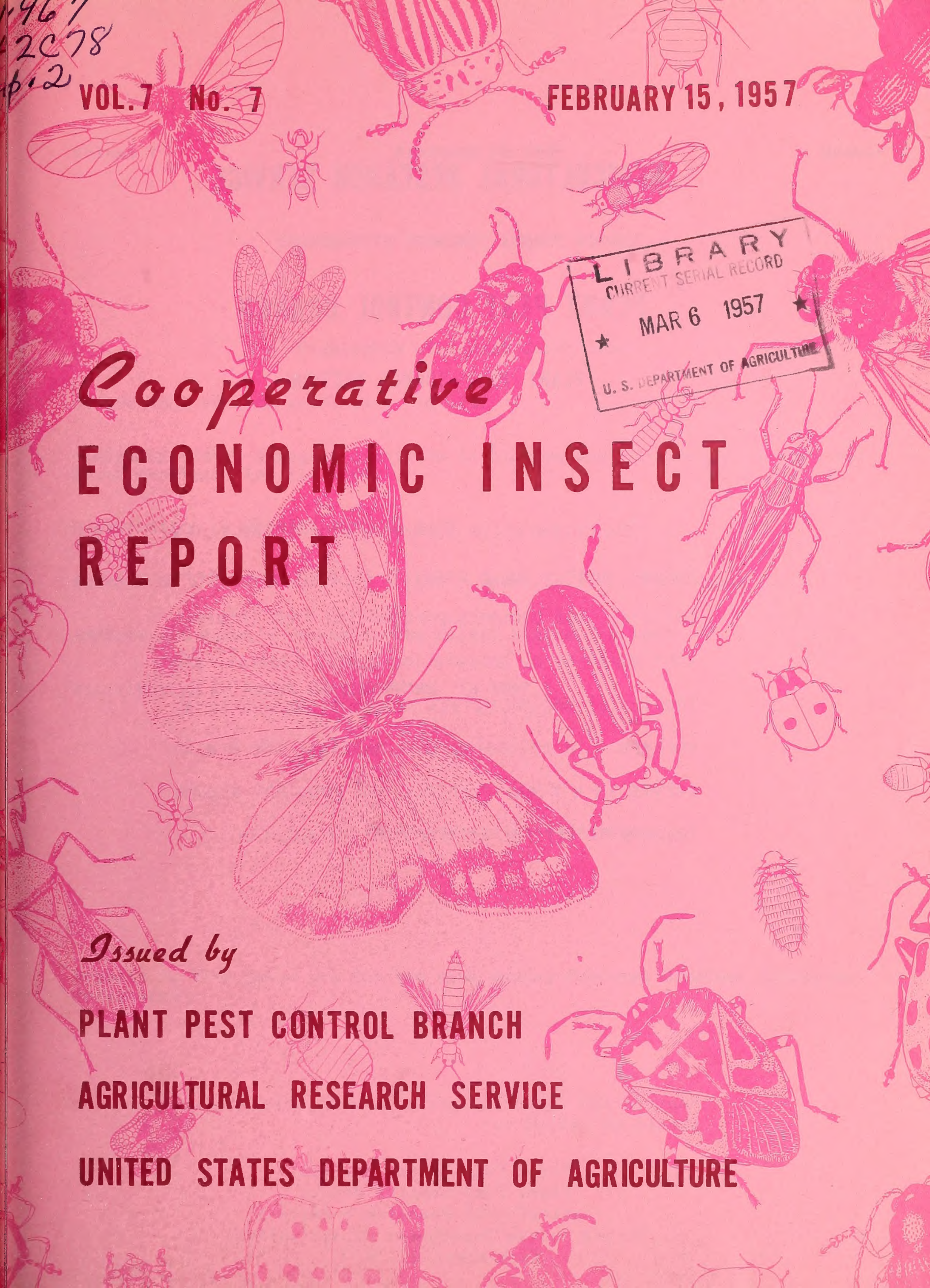

VOL. 7 No. 7 FEBRUARY 15, 1957

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U. S. DEPARTMENT OF AGRICULTURE

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 7 February 15, 1957 Number 7

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CITRUS PEST outlook in Florida. (p.114).

VEGETABLE WEEVIL damaging crucifers in Alabama and in areas of Georgia and South Carolina. (pp.114,116).

Distribution of HESSIAN FLY. (p.117).

SUMMARY OF INSECT CONDITIONS - 1956 - Idaho (p.118), Washington (p.123).

INSECTS not known to occur in the United States. (p.128).

Distribution of RANGE GRASSHOPPERS. (p.129).

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Reports in this issue are for the week ending February 8 unless otherwise designated.

WEATHER OF THE WEEK ENDING FEBRUARY 11, 1957

Mild, unseasonably-warm weather prevailed over most of the Nation this past week. Along the Canadian Border from central Washington to Minnesota the temperature departures showed a contrast of as much as 20° over the values of previous week. In northern Minnesota temperature departures averaged as much as 9° above normal. The New England States were equally as warm by comparison of seasonal normals, while in the South departures averaged 20° above normal at Birmingham, Alabama, and Jackson and Meridian, Mississippi. Daily record temperatures continued for the third week to be equaled or exceeded at stations in the Southeast. On the 8th, Jackson, Mississippi reported 82° which equaled the highest February temperature ever recorded for that station. On the same day 79° at Atlanta, Georgia equaled the highest temperature ever observed there during the winter season. Over the weekend, daily maxima reached 90° in both southern Florida and southern Texas. From the Divide westward temperatures averaged near normal for the week. Only small areas in the extreme Northwest and in the vicinity of Grand Junction, Colorado, observed temperature averages of 3° or more below normal. Precipitation totals were moderate to heavy in the same general areas they were last week, with Abilene, Texas recording 1.48 inches; Fort Smith, Arkansas, 3.57 inches; and Knoxville, Tennessee, 4.53 inches. Some flooding was reported in southwestern Pennsylvania, southern Ohio, northwestern West Virginia and in the lowlands of Kentucky. Along the north Pacific coast weekly totals were greater than 2 inches. Late in the week scattered showers in southern Florida brought much needed rain.

Cloudy, foggy conditions characterized the weather picture during the major portion of the week from the Central Plains eastward. From Kansas northward, strong winds for the past few days raised dust in the more southerly sections and blowing snow in North Dakota and Montana where visibilities were reduced to a fraction of a mile. On Monday, winds reached 81 m.p.h. at Lander, Wyoming. During the week the snow cover receded at lower elevations, and on Monday the 1-inch depth incorporated mainly the Northern Border States. Limited skiing is reported in northern areas of New England where depths of over 10 inches only exist in the more sheltered areas, northern slopes, and in the extreme North. Snow depths at higher elevations in Washington continued to increase with Mount Baker Lodge measuring 160 inches and Paradise Ranger Station 144 inches. Other depths at high elevations in the West include 72 inches at Crater Lake, Oregon; 49 inches at West Yellowstone, Montana and 102 inches at Wolf Creek Pass, Colorado.

Measurements of ice thickness include 28 inches at Greenville, Maine; 17 inches at Somerset, Vermont; 31 inches at Bismarck, North Dakota; 18 inches at Huron, South Dakota; 13 inches at Alpena, Michigan; and 25 inches on Lake Pepin in Minnesota. (Summary Supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Surveys indicate that farmers and ranchers in about 12 counties may encounter heavy damage in 1957. Indications that approximately 1 million acres, primarily rangeland, may be infested with populations ranging from threatening to severe during 1957 season. Counties where expected heavy losses may occur in crops and pastures are Alpine, Butte, Calaveras, Fresno, El Dorado, Humboldt, Kern, Kings, Monterey, Nevada, San Diego, San Luis Obispo, Shasta, Siskiyou and Tehama. Overall it is expected that between 300,000 and 500,000 acres may be treated with insecticides in April and May to reduce populations on infested lands. (Cal.Coop. Rept., Feb. 1)

GREENBUG (Toxoptera graminum) - TEXAS - Light to medium infestations on wheat in Castro, Deaf Smith, and Parmer Counties. Heavy one field volunteer wheat in Deaf Smith County. (Daniels).

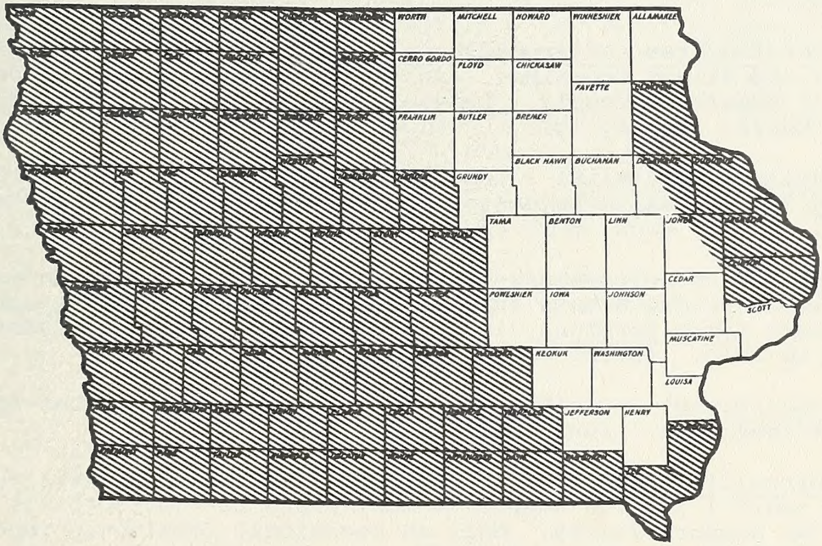
WINTER GRAIN MITE (Penthaleus major) - TEXAS - Medium populations on oats in a very few widely scattered fields in Williamson County. (Davis).

COWPEA APHID (Aphis medicaginis) - TEXAS - Heavy infestation on clover in few scattered fields in Williamson County, causing discoloration and slow growth. (Davis).

A CHINCH BUG (Blissus leucopterus insularis) - FLORIDA - Adults averaged about 15 to 20 per square foot on Saint Augustine grass at Gainesville, Alachua County. Control required. (Denmark, Jan 29.).

SPOTTED ALFALFA APHID - OKLAHOMA - Generally light in southern and central counties, up to 800 per square foot of alfalfa crown, (Coppock). IOWA - The map below shows counties where spotted alfalfa aphid was found prior to winter. It should not be interpreted that aphid did not occur in unshaded counties as these areas were not carefully surveyed. (Harris, Feb. 4) This map revises Iowa distribution shown in CEIR 7(5): 87.

SPOTTED ALFALFA APHID IN IOWA



FRUIT INSECTS

Forecast, Citrus Insects, Lake Alfred Florida:
PURPLE SCALE (Lepidosaphes beckii) infestations will increase but will be below average on old leaves, and unless there is a late cold spell or extreme drought, infestations will remain below average until July. Populations will be above average next fall. FLORIDA RED SCALE (Chrysomphalus aonidum) Peak hatching will be in February, followed by increasing population trend which will be above average through May. CITRUS RED MITE (Metatetranychus citri) infestations will be below average through winter and spring. Peak will be reached in June. CITRUS RUST MITE (Phyllocoptruta oleivora) infestations will reach peak early in February and declining trend will follow. Populations will be above average through April. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) infestations will be low this year. APHID infestations will be more severe than in recent years. especially in young trees and in groves injured by frost. (Pratt).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - FLORIDA - One colony in five plum trees inspected at Gainesville, Alachua County. (Mead).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Trapping continued in Los Angeles County with negative results. (Cal. Coop. Rept., Feb. 1).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - The fifty-fifth bait spray application almost completed in buffer zone between San Diego County and Baja California, Mexico. No flies taken in traps serviced. (Cal. Coop. Rept. Feb. 1).

YELLOW SCALE (Aonidiella citrina) - CALIFORNIA - Heavy infestations found January 30 on three properties in Orland district of Glenn County. (Cal. Coop. Rept., Feb. 1).

NAVEL ORANGEWORM (Paramyelois venipars) - CALIFORNIA - Infestation heavy in an walnut orchard near Orland, Glenn County. (Cal. Coop. Rept., February 1).

PECAN NUT CASEBEAR (Acrobasis caryae) - OKLAHOMA - Survey of overwintering hibernacula ranged from 0 in McClain, Carter and Cotton Counties to 1-2 in Garvin County. A total of 750 distal tips of branches examined. (Coppock).

TRUCK CROP INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - GEORGIA - Heavy infestations on turnips in Clay and Wilcox Counties. (Johnson). SOUTH CAROLINA - Heavy one field of turnips in Edgefield County. Larvae completely defoliated turnips and feeding on root. (Moore, January 15).

CABBAGE WEBWORM (Hellula rogatalis) - CALIFORNIA - Larvae of this species and Platynota stultana found damaging stems of brussels sprouts at Canoga Park, Los Angeles County. (Cal. Coop. Rept., Feb. 1).

APHIDS - TEXAS - Causing severe damage in untreated fields of cabbage and brussels sprouts in lower Rio Grande Valley. (Wene, Deer). ARIZONA - Light infestation, probably Myzus persicae, in some fields of lettuce in Phoenix area. Colonies beginning to form. (Ariz. Coop. Rept.).

MELON FLY (Dacus cucurbitae) - CALIFORNIA - Trapping continues in Los Angeles County with results negative. (Cal. Coop. Rept., Feb. 1).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Populations well scattered and only averaged about 1 per 100 sweeps in most areas in the foothills on the west side of the San Joaquin Valley. Only an occasional female was found with developing eggs. (Cal. Coop. Rept., Feb. 1).

CABBAGE LOOPER (*Trichoplusia ni*) - TEXAS - Populations heavy enough to require control in cabbage and brussels sprouts in lower Rio Grande Valley. (Wene, Deer).

POTATO PSYLLID (*Paratrioza cockerelli*) - ARIZONA - Eggs abundant on *Lycium* spp. in the Phoenix area February 3. No nymphs or adults found. (Ariz. Coop. Rept.).

THRIPS - ARIZONA - Medium infestation, probably *Frankliniella occidentalis*, on lettuce in Phoenix area. (Ariz. Coop. Rept.).

BEET ARMYWORM (*Laphygma exigua*) - ARIZONA - Light infestation on lettuce in Phoenix area. (Ariz. Coop. Rept.).

A SERPENTINE LEAF MINER (*Liriomyza* sp.) - TEXAS - Causing considerable damage to cotyledon leaves of seedling tomatoes in lower Rio Grande Valley. (Wene, Deer).

DARKLING BEETLES - TEXAS -Causing severe damage to seedling tomatoes in Mission area. (Wene, Deer).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - OKLAHOMA - Survey to February 5, 1957 of 431 bolls from standing stalks in Caddo, Garvin, Grady and McClain Counties showed 27 bolls infested with 34 live and 9 dead larvae. Seed inspection of 17,371 cotton seed from Cotton, Grady, Jackson, and Tillman Counties showed 59 seed infested with 1 live and 58 dead larvae. (Fed.-State PBW Cont.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - UTAH - Appearing in backs of cattle in Sanpete County past two weeks. Control progressing in parts of Washington and Kane Counties. (Knowlton, Feb. 1). OKLAHOMA - Counts on 74 mature cows at Oklahoma City slaughtering plants averaged 1.03 per animal; 81 mature cows at Stillwater 2.59; 32 calves at Oklahoma City averaged 2.90; 37 past-yearling steers at Coalgate 3.11 and 25 past-yearling bulls at Stillwater 1.96. Number of grubs per animal declining rapidly in all sections. (Coppock, Schomberg). VIRGINIA - Species of *Hypoderma* becoming very heavy in backs of cattle on some farms in Montgomery County. (Turner). WEST VIRGINIA - Larvae of *Hypoderma* sp. encysting in backs of cattle in Monongalia County. (Dorsey, Hansen, Gillespie).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A SPITTLEBUG (*Clastoptera undulata*) - FLORIDA - Adults and nymphs collected on Australian pine at Naples, Collier County. Adults averaged 116 per 100 sweeps. (Mead, Jan. 11).

IPS BEETLES - ARKANSAS - Areas of heavy activity and losses during December, 1956 and January 1957 were in the Mansfield-Waldron area in Sebastian and Scott Counties. (Ark. For. Comm.).

STORED PRODUCTS INSECTS

MEDITERRANEAN FLOUR MOTH (*Anagasta kuhniella*) - ALABAMA - Causing some damage to stored peanuts in southeastern area. (Owen).

KHAPRA BEETLE (*Trogoderma granarium*) - ALABAMA - Inspections negative to date. (Owen). CALIFORNIA - A collection of larvae was made from the nest of a harvester ant (*Pogonomyrmex* sp.) at Holtville, February 2. The nest was located fifty yards from a barley silo infested with khapra beetle. (Cal. Coop. Rept.).

MISCELLANEOUS INSECTS

CLUSTER FLIES - PENNSYLVANIA - Considerably more numerous than in past in buildings in western area. (Adams).

CORRECTIONS

Culex taeniorhynchus should be changed to *Aedes taeniorhynchus* on the following pages in CEIR 1956 - 6(37): 916, 6(38): 934 and 6(41): 984.

CEIR 7(5): 85 under Status of Spotted Alfalfa Aphid should read, California listed additional cost of $1.75 to $3.00 per acre treated.

ADDITIONAL NOTES

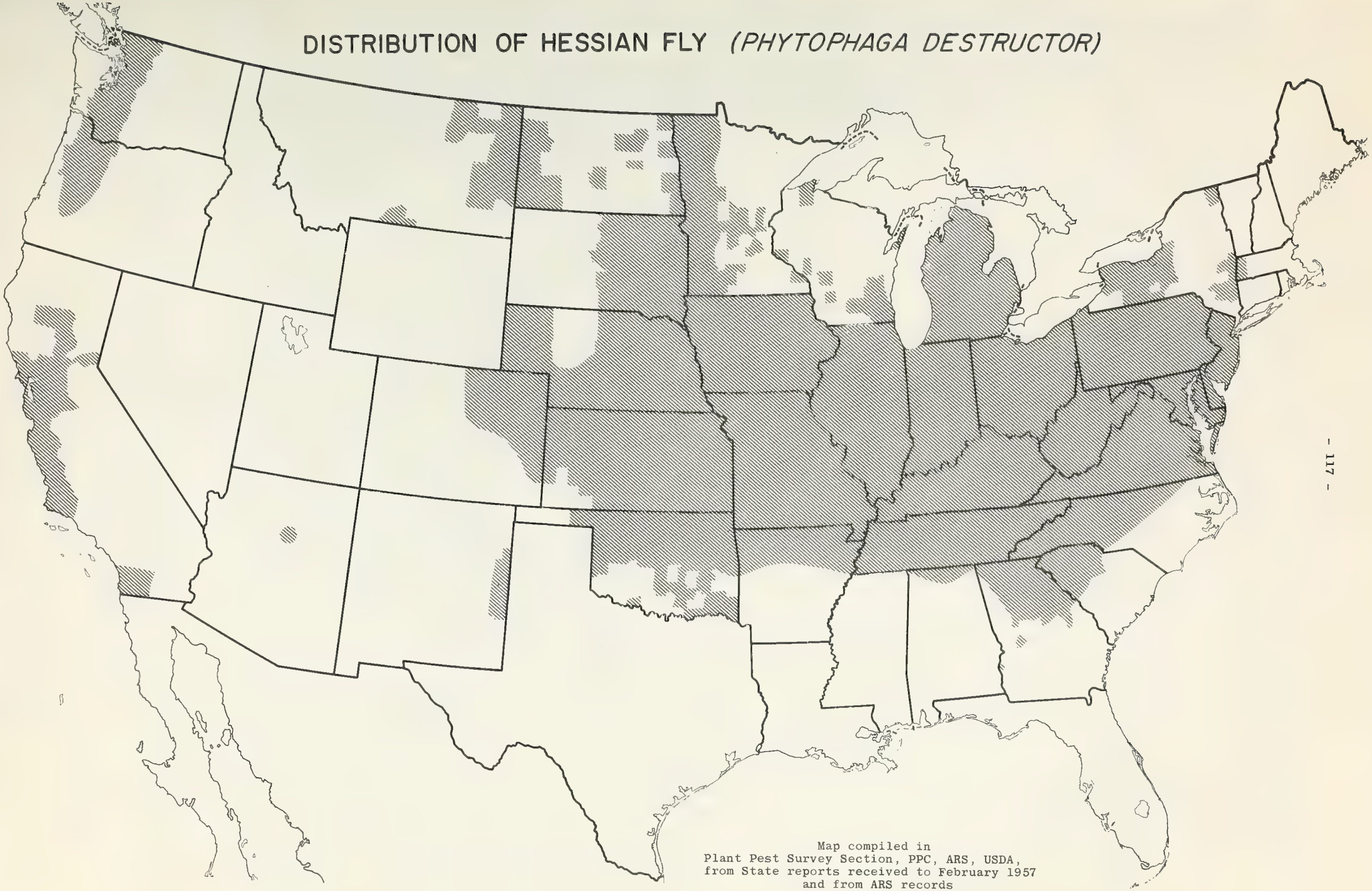
VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - ALABAMA - Causing considerable damage to crucifers in central and southern area. (Arant).

A MARGARODID (*Matsucoccus bisetosus*) - CALIFORNIA - An infestation located on February 2 in association with a dieback condition in pines in the Angwin and Sanitarium areas in Napa County. (Cal. Coop. Rept.).

LIGHT TRAP COLLECTIONS

	Pseud. unipun.	Agrot. yps.	Prod. orni.	Perid. marg.	Feltia subt.	Tricho- plusia ni	Heliothis zea
TEXAS							
Weslaco 1/16-31	30	136	33	1	191	423	139
FLORIDA							
Monticello 2/5		2	3		17		1
Gainesville 2/6		2			14		
SOUTH CAROLINA (Counties)							
Oconee 1/26-2/1	1		100	2	2		
Florence 1/26-2/1	16	17	30	8	18		
Charleston 1/21-27	49	33	3	1	9		

DISTRIBUTION OF HESSIAN FLY *(PHYTOPHAGA DESTRUCTOR)*



Map compiled in
Plant Pest Survey Section, PPC, ARS, USDA,
from State reports received to February 1957
and from ARS records

SUMMARY OF INSECT CONDITIONS - 1956

IDAHO

Reported by A. R. Gittins*

Highlights of Insect Conditions in Idaho during 1956: ALFALFA WEEVIL caused light to severe losses to alfalfa hay and seed fields in southern area. Reduced hay yields 50 percent on first cutting in some areas and caused two to three weeks delay in regrowth of the second crop. BEET WEBWORM outbreaks occurred during August in an area extending from Twin Falls eastward to Pocatello and north beyond Idaho Falls. Over 20,000 acres of sugar beets were infested from light to heavy. Many infestations also were found in potatoes. BROWN-BANDED COCKROACH was reported from many parts of the State. First established infestation was found at Boise in 1953. First infestations of CHERRY FRUIT FLY in southern Idaho were found during 1956 near Weiser and Twin Falls. CLOVER CUTWORM infestations were general on sugar beets. Larvae were also found attacking potato fields in Power County. COLORADO POTATO BEETLE was heavier than normal. ONION MAGGOT caused higher onion losses, estimated 30 percent, from maggot activity during 1956 than any previous year. Surveys showed PEAR PSYLLA generally distributed in pear orchards of southwestern Idaho. RED-BACKED CUTWORM caused considerable damage in 1200 acres of clover near Lake Fork, Valley County. SPOTTED ALFALFA APHID- Repeated surveys during 1956 were negative for this aphid. SYMPHYLIDS are becoming increasingly important in western Idaho following a heavy increase in the Weiser area and the discovery of the first infestation of garden symphylids at Lewiston. WESTERN YELLOW-STRIPED ARMYWORM was abundant on alfalfa, sweetclover and potatoes in scattered southeastern areas.

Cereal and Forage Insects: Threatening to severe populations of GRASSHOPPERS existed on crop lands in Franklin, Washington, Nez Perce and Idaho Counties, and portions of Oneida, Bannock and Bear Lake Counties. Migrations to crops occurred in Madison, Payette, Ada, Fremont and Gem Counties. Spotted economic infestations occurred in Twin Falls and Jerome Counties. An estimated 9,500 acres of crop lands were sprayed for grasshopper control during 1956. This spraying protected 24,100 acres and saved approximately $94,300. GRASSHOPPERS were controlled on 81,557 acres of rangeland resulting in protection of 163,114 acres at an estimated saving of $64,000. Melanoplus mexicanus, M. bivittatus, M. femur-rubrum and Camnula pellucida were the principal species involved in crop land infestations. One heavy infestation of MORMON CRICKETS covering 3,080 acres of rangeland in Payette County occurred during 1956. This area was subsequently aircraft baited. Populations of BROWN WHEAT MITE (Petrobia latens), WHEAT STEM MAGGOT (Meromyza americana) and ENGLISH GRAIN APHID (Macrosiphum granarium) were generally light on grains with some damage noted. CORN EARWORM (Heliothis zea)was generally light on corn throughout southwestern and south central Idaho. Damage statewide was light except in some sweet corn plots in the Lewiston area where over 90 percent of the ears were infested. Very light infestations of WESTERN BEAN CUTWORM (Loxagrotis albicosta) in home gardens in southern Minidoka County during early August which were confined to early rather than late corn. Spring emergence of ALFALFA WEEVIL (Hypera postica) was delayed in most areas and resulted in some egg laying prior to late April. The weevil was abundant throughout southern area and caused heavy losses to all untreated alfalfa fields. WEEVILS reduced hay yields as much as 50 percent in some southwestern areas. Many growers were forced to cut early and treat the stubble to assure a second crop. Second crop regrowth in untreated hay fields was delayed two to three weeks. In numerous untreated fields in southeastern Idaho, larval populations on first cutting exceeded 50 per sweep. Several adults were collected at Moscow on May 18 which extended the known range in the State. Total losses attributed to the weevil during 1956 were 123,250 tons of alfalfa hay and 133,000 pounds of alfalfa seed. CLOVER LEAF WEEVIL (*Hypera punctata*)was general throughout southern area with no outbreaks noted. However, spotted mild infestations resulted in slight damage to red and alsike clover in Valley County and populations were heavier than normal in fields around Payette and Declo. CLOVER ROOT CURCULIO (*Sitona hispidula*) was moderate in most alfalfa fields throughout the southern counties; and abundant in fields in the Boise Valley with adult populations averaging 6 per sweep and larval injury observed on over 90 percent on the tap roots. SWEETCLOVER WEEVIL (*Sitona cylindricollis*) caused light to moderate damage in all sweetclover stands throughout southern area. Caused heavy damage to a 70-acre field near Grangeville and one 60-acre seed field of white Dutch clover in Latah County. ARMY CUTWORM (*Chorizagrotis auxiliaris*) populations were low in crops throughout Idaho. Disease and parasitism apparently reduced numbers to below economic levels. Populations of PEA APHID (*Macrosiphum pisi*) werelower than normal on alfalfa during 1956. Generally heavy populations of predators believed chiefly responsible. LYGUS BUGS(predominantly *Lygus elisus* and *L. hesperus*) continued to be destructive pests. Moderate to heavy infestations occurred where control measures were delayed or omitted. Surveys showed that *L.elisus* and *L. hesperus* were found in about equal numbers on alfalfa during the spring and early summer with *L. hesperus* tending to become predominant during late summer and early fall. ALFALFA CATERPILLAR (*Colias philodice eurytheme*) adults were extremely abundant in many areas of southern Idaho. However, larval populations were generally light and seldom caused appreciable damage. TWO-SPOTTED SPIDER MITES (*Tetranychus telarius*) were generally abundant and often caused moderate to severe damage to clover, alfalfa and corn in southern area. LESSER CLOVER LEAF WEEVIL(*Hypera nigrirostris*) was more abundant than in recent years; severe injury to red clover seed fields in Nez Perce and Latah Counties during late spring, with some fields showing as high as 50 percent damage. A general infestation of RED BACKED CUTWORM (*Euxoa ochrogaster*) occurred on approximately 1200 acres of clover in Valley County during the spring and summer of 1956. Approximately 1000 acres showed 50 percent or more damage. Spotted infestations of BLISTER BEETLES (*Epicauta* spp.) were found in alfalfa fields throughout southern Idaho where general control measures were omitted. WESTERN BLACK FLEA BEETLE (*Phyllotreta pusilla*) populations were general in alfalfa throughout southern Idaho. Adult populations up to 20 per sweep were found on second crop in the Mountain Home and Grandview areas. CLOVER APHID (*Anuraphis bakeri*) was lower than normal in red clover in southern Idaho with the exception of a few seed fields near Idaho Falls which had 100 percent of the heads infested. High populations of PREDATORS were responsible for keeping pest from becoming extremely abundant. SWEETCLOVER APHID (*Myzocallidium riehmi*) was present on sweetclover throughout Idaho but not of economic importance. This insect was mistakenly reported as the SPOTTED ALFALFA APHID from Oneida County. Heavy populations of WESTERN YELLOW-STRIPED ARMYWORM (*Prodenia praefica*) were general over several hundred acres of alfalfa causing heavy damage in Franklin County and other areas of southeastern Idaho during early August. Spotted but heavy populations were noted stripping sweetclover in Power and Bingham Counties. SPITTLEBUGS ranged from 5 to 10 per sweep in alfalfa and clover fields in Boundary, Bonner and Kootenai Counties during late July and early August. CLOVER SEED CHALCID (*Bruchophagus gibbus*) caused some concern in many alfalfa and clover seedgrowing areas.

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* Other reporters include H. C. Manis, D. R. Scott, W. F. Barr, R. W. Portman, H. W. Smith, K. E. Evans, Twin Falls Field Station, C. D. Bechtolt, V. S. Cross, J. D. Roberts, F. E. Kohl, S. W. Schow, L. L. Vail, E. C. Clark and S. E. Johnson

Fruit Insects: Scattered infestations of SAN JOSE SCALE (*Aspidiotus perniciosus*) were found in a few orchards in the Boise Valley. EUROPEAN RED MITE (*Metatetranychus ulmi*) was common throughout the fruit areas of southwestern Idaho. Heaviest populations on fruit trees in Franklin County where considerable damage occurred. High populations general throughout the State on apples where control omitted. PEACH SILVER MITE (*Vasates cornutus*) infestations were light and fairly general in the Payette, Canyon and Washington County areas. GREEN PEACH APHID (*Myzus persicae*) populations were generally below normal in the fruit growing areas of southern Idaho. STRAWBERRY LEAF ROLLER (*Ancylis comptana fragariae*) was abundant in most strawberry fields throughout the State. Heavy infestations occurred in most parts of Canyon, Ada, Bonneville, and Latah Counties. A WHITE GRUB (*Polyphylla decemlineata*) damaged certified strawberries in spots north of Caldwell. GARDEN SYMPHYLID (*Scutigerella immaculata*) was discovered causing considerable stunting of strawberry plants in a planting at Lewiston. First record of the pest occurring in northern Idaho. CLOVER MITE (*Bryobia praetiosa*) was general in Idaho orchards but no severe infestations reported. TENT CATERPILLARS (*Malacosoma* spp.) caused some defoliation to cherry trees in the Moscow area and numerous scattered infestations through the Boise Valley. ORIENTAL FRUIT MOTH (*Grapholitha molesta*) was higher than normal, particularly in peach orchards of Canyon County. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) was generally abundant on most fruit crops with occasional severe infestations. Caused considerable injury to raspberries in the Moscow area and was abundant on strawberries and raspberries in Franklin County. EUROPEAN PEACH SCALE (*Lecanium persicae*) was generally light with the exception of an extremely heavy infestation on a few pear trees in a southwestern orchard. ROSY APPLE APHID (*Anuraphis roseus*) was generally abundant throughout Payette and Washington Counties. PEACH TREE BORER (*Sanninoidea exitiosa*) numbers generally low during 1956 throughout the Boise Valley. PEAR LEAF BLISTER MITE (*Eriophyes pyri*) was common throughout southwestern Idaho but less so in south-central area. Extremely abundant on recent plantings north of Parma. A heavy infestation of PEAR PSYLLA (*Psylla pyricola*) was discovered during 1956 near Weiser. Surveys indicated insect fairly widely distributed throughout southwestern Idaho. PEAR-SLUG (*Caliroa cerasi*) was abundant on pears and evident on cherry trees north of Parma. Some infestations occurred on pear and cherry trees in the Moscow area during mid-August. YELLOW-NECKED CATERPILLAR (*Datana ministra*) was found defoliating many apple and cherry trees in Canyon County. EUROPEAN EARWIG (*Forficula auricularia*) continued to cause damage to ripening fruit in orchards. A CHERRY FRUIT FLY (*Rhagoletis cingulata indifferens*) was first discovered in southern Idaho during 1956 in the Weiser and Twin Falls areas. Limited surveys indicate infestations confined to these two areas. CODLING MOTH (*Carpocapsa pomonella*) infestations were low in treated orchards but often reached 100 percent where neglected.

Truck Crop Insects: COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) infestations were more widespread in southern Idaho during 1956 than in the past few years. Heavy populations were generally locally concentrated within fields where control measures were omitted. EUROPEAN EARWIG (*Forficula auricularia*) was abundant in the ears of sweet corn during August and September. Considerable damage to commercial sweet corn was reported from the Boise Valley area. A LEAFHOPPER (*Empoasca filamenta*)- Adult populations near 10 per sweep during mid-summer in south central and southeastern areas. WESTERN BLACK FLEA BEETLE (*Phyllotreta pusilla*) damage was widespread but generally light throughout south central and southeastern Idaho. GREEN PEACH APHID (*Myzus persicae*) populations were low in potato fields of eastern areas; however, damaging numbers were found in some fields in Canyon County. WESTERN YELLOW-STRIPED ARMYWORM (*Prodenia praefica*) in scattered infestations caused considerable damage to some potato and sugar beet fields in southeastern counties. TOMATO HORNWORM (*Protoparce quinquemaculata*) was light and spotted on potatoes and tomatoes in some areas. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) caused heavy damage to some potato fields in Bonneville and Jefferson Counties. Populations built up in moderate numbers in bean fields during mid-summer in the southwestern and south-central counties. SYMPHYLIDS caused considerable damage to a variety of truck crops in Washington County . SPINACH LEAF MINER (Pegomya hyoscyami) damage was light spotted in some sugar beet fields in Minidoka County and northern Cassia County. An outbreak of BEET WEBWORM (Loxostege sticticalis) occurred during August in an area extending from Twin Falls east to Pocatello and north beyond Idaho Falls with losses estimated at 1,000 tons of sugar beets. Heaviest infestations in southwestern Bingham County and western Power County where almost 40 percent defoliation occurred in a few fields. CLOVER CUTWORM (Scotogramma trifolii) attacked sugar beets and potatoes throughout most areas of beet webworm abundance. Larval populations were generally light except in parts of Minidoka, Cassia, and Power Counties where heavy infestations of both the beet webworm and clover cutworm caused moderate to heavy injury. Unidentified species of WIREWORMS severely damaged a 10-acre field of beans in Jerome County with an estimated loss of 25 percent of the crop. LEAFHOPPERS were present in bean fields throughout southern Idaho but only mild injury occurred. The first WESTERN BEAN CUTWORM (Loxagrotis albicosta) moths emerged from hibernation cages on July 3 in south central Idaho. Found attacking tomatoes in south central area which is a new host record. PEA APHID (Macrosiphum pisi) populations on peas were extremely variable and in few instances were very abundant. PEA WEEVIL (Bruchus pisorum) numbers in pea fields of northern area were considered below normal. ONION MAGGOT (Hylemya antiqua) adults became extremely abundant in southwestern area during early May, and continued to be abundant through September. By early June, severe maggot injury showed in many commercial onion fields of Canyon County. Infestations ran as high as 80 percent of the bulbs infested. Several fields were destroyed and disked up during the early growing season. Total onion losses due to maggot feeding was approximately 48,840,000 pounds. ONION THRIPS (Thrips tabaci) populations were generally low on seed and commercial onions in southwestern area during 1956 except in fields where onion maggot control was suspended. ASPARAGUS BEETLES (Crioceris duodecimpunctata and Criocerus asparagi) were abundant in some areas. CABBAGE MAGGOT (Hylemya brassicae) populations were generally lower than normal. Over-all populations of IMPORTED CABBAGEWORM (Pieris rapae) were light and controls were effective. High populations of CABBAGE APHID (Brevicoryne brassicae) were on untreated cabbages in south central Idaho. SQUASH BUG (Anasa tristis) - Generally low populations statewide. A LETTUCE APHID (Macrosiphum barri) was generally below the average abundance of the past few years.

Forest and Shade Tree Insects: EUROPEAN ELM SCALE (Gossyparia spuria) was generally light to moderate statewide. OYSTERSHELL SCALE (Lepidosaphes ulmi) occurred spottedly with heavy populations found on ash trees in the vicinities of Preston, Moscow and Twin Falls. CLOVER MITE (Bryobia praetiosa) infestations numerous on shade trees with extremely heavy populations in the Caldwell and Nampa areas. ELM LEAF BEETLE (Galerucella xanthomelaena) caused considerable and often extensive skeletonization of elm leaves throughout southern Idaho. COTTONY-MAPLE SCALE (Pulvinaria innumerabilis) was heavy in Canyon and Gem Counties. Moderate to heavy infestations also occurred on maple and elm in some other areas. NORWAY MAPLE APHID (Periphyllus lyropictus) was moderate to high on maple trees in many parts of Idaho. Two minor outbreaks of DOUGLAS-FIR TUSSUCK MOTH (Hemerocampa pseudotsugata) occurred in Idaho during 1956. SPRUCE BUDWORM (Choristoneura fumiferana) infested approximately 700,000 acres of forest land in 1956. Following districts have economic populations: Targee National Forest, 500,000 acres infested; Nez Perce National Forest, 83,700 acres infested; Craig Mountain area, 60,000 acres infested; and the Waha Lake and Soldier's Reservoir areas with the extent of infestations not yet known. BLACK-HEADED BUDWORM (Acleris variana) was abundant in localized areas of Kootenai and Kaniksu National Forests causing severe damage to 1956 growth of hemlock. APHIDS (Cinara spp.) caused injury in some areas. A LEAF MINER caused extensive damage to poplar foliage in southeastern Idaho. Heaviest infestations were reported from Teton and eastern Bonneville Counties. YELLOW-NECKED CATERPILLAR (Datana ministra) stripped elms at Burley and attacked birch trees in Canyon County. FALL WEBWORM (Hyphantria cunea) was more abundant in central Idaho than in previous years and caused damage to many cottonwoods and chokecherries in the lower Clearwater Canyon area. WOOLLY APPLE APHID (Eriosoma lanigerum) generally less abundant than normal in Latah County. However, abundant in some southern areas. BALSAM-FIR SAWFLY (Neodiprion abietis) populations caused slight damage to Douglas-fir trees in the Craters of the Moon National Monument. A MOTH (Synnoma lynosyrana) is becoming extremely abundant on rabbitbrush in several desert areas of southern Idaho. The larvae have been found attacking Chrysothamnus nauseosus and C. vicidiflorus. PINE BARK APHID (Pineus strobi) populations were above normal.

Insects Attacking Ornamentals: CLOVER MITE was abundant throughout the State in lawns and flower gardens. EUROPEAN EARWIG was moderately heavy throughout State. OYSTERSHELL SCALE - Heavier than normal infestations were present on lilacs in Franklin and Cassia Counties. SNOWBALL APHID (Anuraphis viburnicola) was about normal. BLUEGRASS BILLBUG (Calendra parvulus) infestations were discovered in Rupert and Twin Falls damaging lawns. COOLEY SPRUCE GALL APHID (Chermes cooleyi) was light but general on ornamentals throughout State. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) below normal. APHIDS caused variable damage to many home gardens. WHITE-LINED SPHINX (Celerio lineata) caused moderate damage to flower gardens. BLACK CUTWORM (Agrotis ypsilon) were extremely abundant in some lawns in Twin Falls. NARCISSUS BULB FLY (Lampetia equestris) larvae caused moderate injury to daffodil bulbs at Kellogg.

Insects Affecting Speciality Crops: CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) adults found entering rape seed fields of Nez Perce County during late April. Population counts above 3 per sweep during the full-bloom period. Adults extremely abundant in turnip seed fields of Canyon County where up to 8 per sweep were found. WHITE GRUBS (Polyphylla sp.) caused variable damage to hop fields in southwestern Idaho. During early May heavy populations were found attacking the roots. WHEAT-CURL MITE (Aceria tulipae) moderately infested a garlic field in southwestern area. FALSE CHINCH BUG (Nysius ericae) was common in radish seed fields in western Bingham County. Little apparent damage noted. LYGUS BUGS (Lygus elisus and L. hesperus) averaged 10 per sweep in radish seed crops in western Bingham County.

Insects Affecting Livestock: HORN FLIES (Siphona irritans) caused about average annoyance to livestock statewide. CATTLE GRUBS (Hypoderma lineatum and H. bovis) caused near normal losses to beef and dairy herds in Idaho during 1956. MOSQUITOES were about normal with the exception of some southeastern areas where they were extremely abundant during the summer. CATTLE LICE attacked many unsprayed herds in Butte County. HOG LOUSE (Haematopinus suis) and MANGE MITE (Sarcoptes scabiei suis) were observed on hogs in some areas.

Man and Household Pests: HOUSE FLIES (Musca domestica) were about normal with greatest numbers in cities and towns. CASE-MAKING CLOTHES MOTH (Tinea pelliocella) was reported from Filer, one of few recorded occurrences in the State. WESTERN SUBTERRANEAN TERMITE (Reticulitermes hesperus) infestations were found in numerous buildings throughout Idaho. Heavy flights of CARPENTER ANTS (Campanotus sp.) occurred in the Moscow area. VINEGAR FLIES (Drosophila spp.) were abundant in potato storage cellars in southern area. BLACK WIDOW SPIDER (Latrodectus mactans) were numerous in basements particularly in western area. BOXELDER BUGS (Leptocoris trivittatus) were heavy during spring and fall migration caused annoyance to householders. A CHRYSOMELID BEETLE (Monoxia sp.) was extremely abundant in many parts of southern area, where it presented a nuisance problem in several localities. YELLOW JACKETS (Vespula spp.) were extremely abundant throughout northern Idaho during late summer and fall many individuals stung. BROWN-BANDED COCKROACH (Supella supellectilium) - Heavy infestations in Bonners Ferry and Twin Falls. Insect continues to spread in State.

Stored Products Pests: No KHAPRA BEETLE has been found in surveys of State. Trogoderma parabile taken at several locations but seldom above economic levels. Attagenus piceus was frequently found in mill floor areas but seldom in storage.

BEAN WEEVIL (Acanthoscelides obtectus) was found attacking 45,000 pounds of red kidney beans and pinto beans at a storage in Nampa. SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) adults were extremely numerous infesting barley debris in a flat grain storage at Montpelier. RED FLOUR BEETLE (Tribolium castaneum) was heavy in an open bin of mixed grain storage at Eden. ANOBIID BEETLES caused considerable damage to cigars at Twin Falls.

Beneficial Insects: Larvae of A ROOT BORER (Agrilus hyperici) were found boring in the roots of goatweed plants near Lewiston, first indication of establishment in Idaho since introduction in 1953. LADY BEETLES were very abundant in most areas. GOAT-WEED BEETLES (Chrysolina gemellata and C. hyperici)- Extensive killing of goatweed by C. gemellata in the Clearwater and Salmon River drainages. Little evidence of weed control in release areas north of Coeur d'Alene. Fall egg deposition extremely heavy throughout the lower Clearwater and Salmon River drainages. Several species of NABID BUGS were common and often abundant in southern Idaho. Particularly heavy populations of about 3 per sweep were general in alfalfa fields. A BIG-EYED BUG (Geocoris bullatus) was about normal in most fields throughout the State. ANTHOCORIDS were general in alfalfa and clover fields throughout southern Idaho. LACEWINGS were generally abundant in most alfalfa and red clover fields in northern Idaho. TWO-SPOTTED STINK BUGS (Perillus bioculatus) were found feeding on asparagus beetle larvae in Twin Falls County.

SUMMARY OF INSECT CONDITIONS - 1956

WASHINGTON

Reported by Adel Kamal and Carl Johansen

Highlights: Most areas were unusually dry and warm during early spring and extended through the growing season until October. Greater than average amount of rainfall was recorded in several localities during May and June, however. These weather conditions apparently favored the development of spider mites and cutworms. Heavy populations of two-spotted spider mite were reported from a wide range of crops, including mint, corn, alfalfa, clovers, tree fruits, small fruits, and vegetables. An extremely unseasonable freeze was recorded in all parts of the State during November 11-16, 1955. Tree fruits were severely damaged by this freeze plus low temperatures in January 1956. Following is the reduction in production as compared with the 1945-1954 average for several crops: sweet cherries, 82 percent; apples 38 percent; Bartlett pears, 37 percent; apricots, 37 percent; and peaches, 10 percent. Berry fields in western Washington were frozen out. Less than half of the normal acreage of strawberries was harvested. Only one-third of the acreage of red clover seed harvested in 1955 was harvested in 1956. The "big freeze" also caused a definite reduction of certain pests, such as the pea aphid on legumes and the San Jose scale on tree fruits. The absence of aphids was particularly evident in western Washington up to early August.

Field and Forage Crop Insects: Larvae of a mixed population of GLASSY CUTWORM (Crymodes devastator) and SOD WEBWORMS (Crambus spp.) were exceedingly abundant, causing heavy damage to several grass varieties grown for seed in Spokane, Yakima and Benton Counties. Merion bluegrass and orchard grass were heavily infested, various fescue varieties moderately infested while Delta bluegrass and Manchor smooth bromegrass were lightly infested. In one field the majority of larvae were already in hibernacula in October. YELLOW-HEADED CUTWORM (Apamea amputatrix) and GLASSY CUTWORM severely damaged several fields of Merion bluegrass in Garfield County. In Yakima and Benton Counties the RED-BACKED CUTWORM (Euxoa ochrogaster) was the dominant species in alfalfa and caused considerable damage. Spotted infestation by the ALFALFA LOOPER (Autographa californica) with medium to severe damage to alfalfa, red clover, and pea fields was recorded from Adams, Spokane, Grant, Whitman, Yakima, and Benton Counties. Second brood caused heavy damage to mint fields in Benton County. Several species of WIREWORMS occurred in damaging numbers. Up to 60 percent destruction of spring barley stand near Pullman was caused by larvae of *Limonius californicus* and *Aeolus* (= *Drasterius*) species. While up to 27 percent destruction of spring wheat was caused by *Ctenicera glauca* and *Agriotes* spp. In the dry-farming areas of Asotin, Adams, and Yakima Counties the damage was done by *Ctenicera noxia*. In early June a severe outbreak of GRASSHOPPERS (*Melanoplus mexicanus* and *Melanoplus bivittatus*) damaged approximately 1200 acres of crop land; threatened 12,000 acres of irrigated land near Ephrata. The ALFALFA WEEVIL (*Hypera postica*), reported for the first time in 1955, is still confined to Asotin and Whitman Counties. First and second instars were recovered by mid-April from roadside alfalfa near Clarkston. Adults and first-instar nymphs of LYGUS BUGS (*L. elisus* and *L. hesperus*) were active in alfalfa fields in Orondo area in early May. Population peaks of both adults and nymphs in clover and alfalfa fields occurred throughout the State during the summer season. PEA APHID (*Macrosiphum pisi*) activity was first noticed on roadside alfalfa near Clarkston in mid-April. Repeated surveys throughout the season revealed increased populations as the season progressed. Populations, however, were slow in developing especially on peas. Cage observations showed that it did not overwinter on alfalfa in Pullman area, probably due to severe freeze in mid-November of 1955. CORN EARWORM (*Heliothis zea*) started causing damage to field and garden corn in Yakima, Benton, Walla Walla and Columbia Counties during the first week of August. Several fields were severely damaged with populations as high as 5-9 larvae per ear. Populations were higher in Yakima Valley and infestation was heaviest near the field margins. STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) was found damaging Merion bluegrass grown for seed near Prosser. Considerable damage to a 4-year mint field was reported near Mabton; 75 percent pupated by May 10 and over 90 percent adults by May 28. BEET WEBWORMS (*Loxostege sticticalis*) heavily infested some fields of sugar beets, mint, and red clover in the Yakima Valley and Columbia Basin. Important pests causing occasional trouble in field and forage crops were LESSER CLOVER LEAF WEEVIL, SWEETCLOVER WEEVIL, CLOVER ROOT CURCULIO, SUGAR-BEET CROWN BORER, WHEAT STEM SAWFLY, ZEBRA CATERPILLAR and A MEALYBUG (*Heterococcus graminicola*) on grasses.

Tree Fruit Insects: PEAR LEAF BLISTER MITE (*Eriophyes pyri*), APPLE RUST MITE (*Vasates schlechtendali*), PEAR PSYLLA (*Psylla pyricola*), and EUROPEAN RED MITE (*Metatetranychus ulmi*) populations were high during May in many orchards of the Wenatchee area where dormant and pre-bloom sprays were omitted because of freeze damage to trees. CLOVER MITE (*Bryobia praetiosa*) started hatching as early as mid-April and maintained high populations throughout the season on apples and pears. EUROPEAN RED MITE did not develop until the middle of May. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) was surprisingly abundant in 1956 on apples, pears, peaches and cherry. Dry summer conditions probably favored rapid development of heavy infestations. Both adults and nymphs of PEAR PSYLLA were collected late September in pear orchards near Steilacoom. There was a heavier infestation of CODLING MOTH (*Carpocapsa pomonella*) in 1956 than the preceding year, possibly due to warmer spring or inadequate control measures. Severe infestations were noticed in home orchards in Yakima and Benton Counties. PEAR-SLUG (*Caliroa cerasi*) seriously damaged pear, apple, and cherry in Island, San Juan, Skagit, and Pierce Counties. PEACH SILVER MITE (*Vasates cornutus*) damaged peaches in a few orchards in Yakima Valley in early June. AN APPLE RUST MITE (*Calepitrimerus baileyi*) collected on apple near Pullman in late August was causing russetting to the lower surfaces of leaves. This is the first record reported in Washington for this eriophyid. SAN JOSE SCALE (*Aspidiotus perniciosus*) on prunes did not mature normally and infestations were lighter than usual. Migrating forms were present in Yakima Valley by late June. Several peach growers near Wenatchee had the worst damage by PEACH TWIG BORER (*Anarsia lineatella*) seen during the last nine years. A build-up of WOOLLY APPLE APHID (*Eriosoma lanigerum*) occurred in Yakima Valley. While natural enemies of this aphid were active, they were not too effective. The November 15 freeze (minus 14°F) at Pullman occurred before most

APPLE APHID (Aphis pomi) eggs had turned black. Hatching started April 17 and only 0.2 percent hatched. However, APPLE APHIDS became a serious problem later in the season, especially on regrowth following freeze injury. Reinfestation of sucker growth continued throughout the season in Yakima, Wenatchee, and Pullman areas. Other aphids, such as GREEN PEACH APHID (Myzus persicae) and BLACK CHERRY APHID (Myzus cerasi) were common during summer on tree fruits in Yakima Valley. First CHERRY FRUIT FLY (Rhagoletis cingulata) trapped in Spokane area June 15. Heavier emergence was reported the following week. Most maggots were nearly mature in cherries in Yakima Valley by first of July. Various instars were found in abandoned orchard near Vernita on June 7 and 11. Several species of PREDACEOUS MITES (Camisiidae and Carabodidae) were reported active on cherry, apple and wild Prunus near Mount Vernon, Vancouver, and Long Beach. EYE-SPOTTED BUD MOTH (Spilonota ocellana) was common on apple, pear, peach, apricot, prune, and cherry at Pullman and Wawawai during April and May. Pupation occurred at Wawawai in mid-May; at Pullman, late May.

Small Fruit Insects: RASPBERRY ROOT BORER (Bembecia marginata) adults were emerging by first week of September on San Juan Island. Eggs were collected on raspberry leaves in Friday Harbor on September 17. A LEAF MINER (Metallus sp.) caused considerable damage to raspberry leaves in Friday Harbor, Anacortes, and Mount Vernon. ORANGE TORTRIX (Argyrotaenia citrana) was more numerous than usual and treatments were required in raspberry fields in Puyallup Valley. RASPBERRY CANE MAGGOT (Pegomya rubivora) was more serious than usual on raspberry in Thurston and Whatcom Counties. CYCLAMEN MITE (Steneotarsonemus pallidus) seriously damaged several varieties of strawberries at Walla Walla and Puyallup. Adult populations of PEA LEAF WEEVIL (Sitona lineata) were found migrating from pea fields into strawberries, causing severe defoliation in young plantings near Clipper. STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) infestations were as high as 100 percent in several home garden strawberry plantings at Pullman and Prosser. About 10 percent were in pupal stage by first week of July. High populations of TWO-SPOTTED SPIDER MITE (Tetranychus telarius) were maintained through the season on many strawberry and raspberry fields. GARDEN SYMPHYLID (Scutigerella immaculata) populations damaged the root systems of strawberries, raspberries, and other berries throughout most of western Washington and the Spokane Valley. SYMPHYLIDS were observed feeding on ripe strawberries. Some fruits were rejected at the market. Two NATIVE WEEVILS (Nemocestes spp.) continued to be a problem in Thurston and Snohomish Counties where STRAWBERRY ROOT WEEVIL control was changed from baits to soil treatments. Moderate infestations of BLACK-HEADED FIREWORM (Rhopobota naevana) were reported from cranberries in several localities in Pacific County.

Truck Crop Insects: ONION MAGGOT (Hylemya antiqua) damage to onion was the severest in the history of the onion industry in Walla Walla area. A few fields were completely destroyed and not harvested (both treated and untreated) in Walla Walla County and the Puyallup Valley. PEA MOTH (Laspeyresia nigricana) populations in Skagit and Whatcom Counties were higher than in 1954 and 1955. Control measures were effective. PEA WEEVIL (Bruchus pisorum) infestations were generally low throughout the season probably due to winter kill of adults. APHID populations (Macrosiphum solanifolii and Myzus persicae) on potatoes were extremely low or not present in all potato fields inspected by June 15 in Grant, Adams, Yakima, and Benton Counties. Sudden increase in population was noticed in mid-July and early August and was accompanied by leaf roll damage in several potato fields throughout Columbia basin. First observed activity of COLORADO POTATO BEETLE (Leptinotarsa decemlineata) was April 27 near Union Gap. First instar larvae started appearing May 25 in Benton County. TUBER FLEA BEETLE (Epitrix tuberis) adults started emerging April 25 near Yakima, approximately ten days earlier than usual. In mid-June populations averaged 5 per 10 sweeps in untreated potato fields near Toppenish. ASPARAGUS BEETLE and SPOTTED ASPARAGUS BEETLE (Crioceris asparagi and Crioceris duodecimpunctata) adults were unusually abundant with as high as 40 per 20 sweeps near Toppenish. A high population level was maintained in several fields in the Yakima Valley throughout July and August.

Of the two species, ASPARAGUS BEETLE appeared to have a wider range of distribution and was more abundant. Over 80 percent of the beetles collected belonged to this species.

Forest, Ornamental and Shade Tree Insects: ROSE APHID (Macrosiphum rosae) started appearing on garden roses in mid-September near Sumner and Puyallup after almost complete absence through the spring and early summer. VIRGINIA-CREEPER LEAFHOPPER (Erythroneura ziczac) caused damage to Virginia creeper and Boston ivy in Wenatchee residential area. Infestations of A WILLOW LEAF GALL SAWFLY (Euura californica) were heavy throughout Chelan, Douglas, Kittitas, and Whitman Counties. Heavy populations of POPLAR PETIOLE GALL APHID (Pemphigus populitransversus) were noticed in poplar trees near Chelan, Entiat and other localities in Chelan County. Several hundred acres of ponderosa pine in Chelan County were severely damaged by the HEMLOCK SCALE (Aspidiotus ithacae). Adults of the ELM SAWFLY (Cimbex americana) started emerging on willow near Pullman in late May. Large numbers were active during spring and early summer. COOLEY SPRUCE GALL APHID (Chermes cooleyi) was unusually abundant on Douglas-fir and spruce ornamentals in Whitman, Yakima, and Chelan Counties. NORWAY-MAPLE APHID (Periphyllus lyropictus) and other shade tree aphids caused dropping of leaves in Spokane, Whitman, Yakima, Benton and Chelan Counties during early summer. A WHITEFLY (Aleyrodes spp.) was reported numerous on various flowering plants, such as zinnia, dahlia, nasturtium, and Pelargonium, in Sumner and Puyallup areas. Adults of AN ERIOPHYID (Vasates masalongoi) were collected in considerable numbers on lilac leaves in Pullman by late August. This mite is relatively unknown in North America, but it is a considerable pest in Europe. This is the first record from Washington. Young shoots and suckers of lilac were heavily damaged by adult feeding of A WEEVIL (Brachyrhinus sp.) at Pullman during August. A LEAF ROLLER (Gracilaria syringella) heavily infested lilacs in the Spokane area during early spring. BEAN APHIDS (Aphis fabae) were very numerous on gladiolus, dahlias, Shirley poppy and other ornamental plants in Puyallup Valley.

Stored-grain Insects: A fall survey to determine whether KHAPRA BEETLE (Trogoderma granarium) or LESSER GRAIN BORER (Rhyzopertha dominica) was present in Washington was negative. Forty-two establishments were inspected in Columbia, Walla Walla, Benton, Franklin,King, Pierce, Chelan, Douglas, Spokane, Whitman, Garfield, and Yakima Counties. Several species of DERMESTIDS (Trogoderma, Attagenus, Anthrenus) were recovered, mainly from feed and flour mills and few from grain storage facilities. The RED FLOUR BEETLE (Tribolium castaneum) and SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) were the most common pests. Next in abundance were GRANARY WEEVIL (Sitophilus granarius) and RICE WEEVIL (Sitophilus oryza).

Insects Affecting Man and Animals: A number of cases of encephalomyelitis of horses and a few cases of encephalitis of man, with two fatalities were reported during July and August. Larvae of LESSER HOUSE FLY (Fannia canicularis) were recovered from infant's stool and urine in Spokane in mid-December. A SARCOPHAGID (Wohlfahrtia opaca) caused serious damage to young mink kits 3 to 4 weeks old with many fatal cases near Spokane.

Beneficial Insects: Cases of poisoning of HONEY BEE (Apis mellifera) occurred in the Wenatchee area, especially when sprays were applied to interplanted peaches and apples or pears and apples. One beekeeper reported a sizable loss of hives in the Yakima Valley because of insecticides applied during the blooming period to alfalfa grown for seed. Pollination of tree fruits was critical because many pollinizers had been frozen. Honey bees and various methods of artificial pollination were employed on a large scale. Pollination of alfalfa in the Yakima Valley by AN ALKALI BEE (Nomia melanderi) was generally good, although predators and parasites are reducing the nesting sites in certain areas. A PARASITE (Aphelinus lapisligni) reduced the CLOVER APHID (Anuraphis bakeri) in fields of red clover grown for seed in the Columbia Basin and the Pullman area during July and August. An oecophorid LEAF TIER (Agonopterix nubiferella) was found heavily infesting Klamathweed in the Cheney area. Larvae of KLAMATHWEED BEETLES (Chrysolina spp.) were collected in the Pullman area during April. These beetles were successfully controlling Klamathweed near Spokane during July and August.

Miscellaneous Insects: A TERMITE (Reticulitermes hesperus) was found damaging the foundation of a store building at Veradale.

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

DURRA STALK BORER (Sesamia cretica Led.)

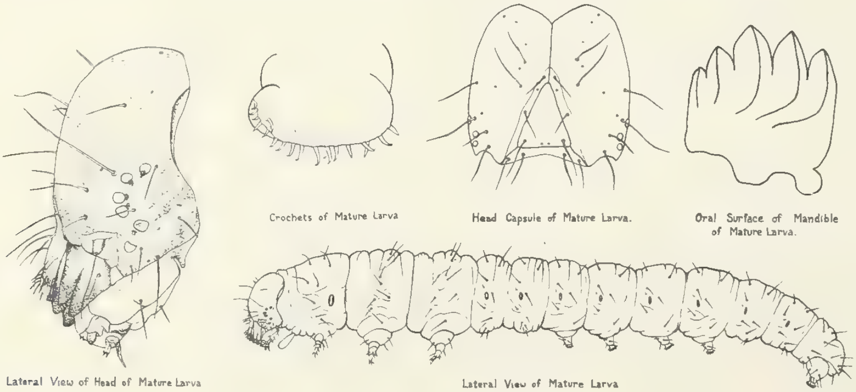
Economic Importance: This phalaenid is considered an important pest of corn, broomcorn and sorghum in the Mediterranean area. Infestations as high as 90 percent have been reported in southern Italy. Attacked plants are weakened thereby reducing yield of seed. The sugar content of cane is also reduced. In the province of Trieste, S. cretica is regarded as more important on maize than the European corn borer. This pest is frequently intercepted at U. S. ports of entry in broomcorn from Italy, thus necessitating mandatory fumigation as a condition of entry.

Distribution: Algeria, Sudan, Egypt, Ethiopia, France, Greece, Italy, Iraq, Morocco, Spain and Yugoslavia.

Hosts: Corn, broomcorn, sorghum, sugarcane and other grasses.

Life History: Observations on the biology of this species in Italy indicate it hibernates as a mature or nearly-mature larva in stalks of sorghum, broomcorn or corn. Adult emergence occurs in April and May. Eggs are deposited singly on leaves or in small batches, about 26 eggs per cluster under the leaf sheaths. On hatching, the larvae feed at first on the leaves than bore into the stalks or attack the ears. Pupation occurs usually in the stalks. Two generations a year are reported in Italy.

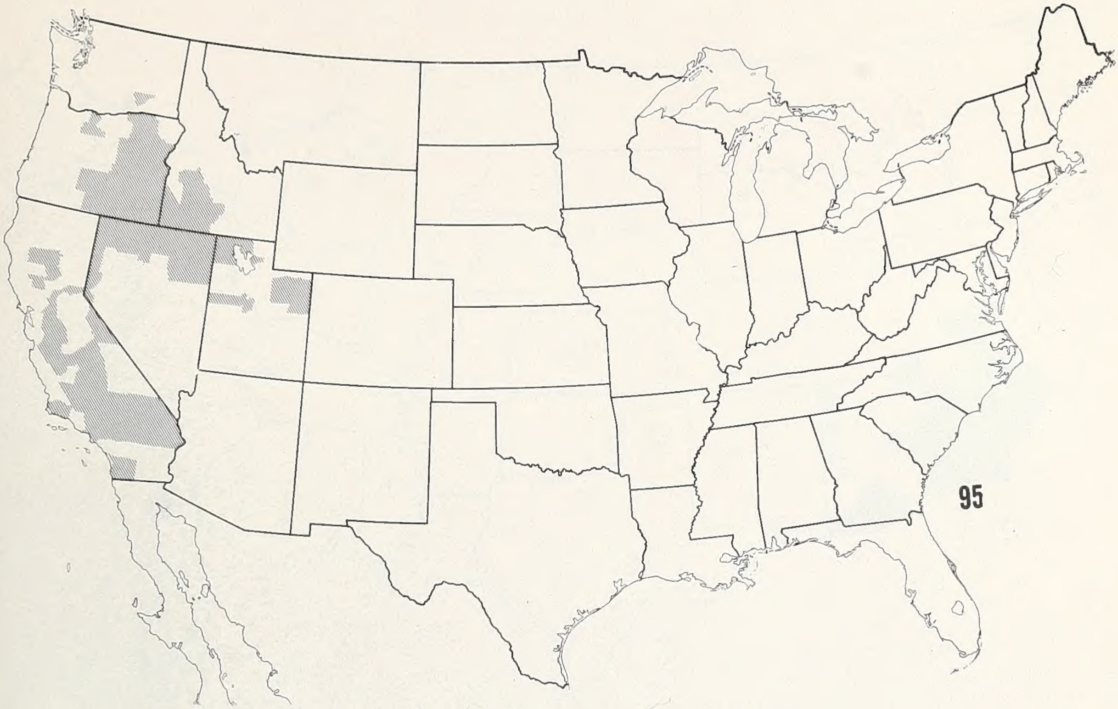
Description: The wing expanse of the moth ranges from 30 to 42 mm. Although coloring varies, a common form has pale yellowish-brown forewings, head and thorax. Many specimens have dark markings in center of the forewing. The hindwings are white becoming yellowish outwardly. This species, especially those forms having black markings in the forewing, resembles the American Leucania spp., but the wings are shorter and broader and the eyes are not haired as in Leucania. Newly-deposited egg masses are pale yellow but change to pink as incubation proceeds. The larva develop through 6 instars, measuring from 14-20 mm. in length after the sixth molt. At this stage the head is chestnut brown, the back pink and the lower parts yellowish. The reddish-brown pupa is 15-20 mm. in length. (Prepared in Plant Pest Survey Section in cooperation with other ARS agencies). February 15, 1957


Crochets of Mature Larva
Head Capsule of Mature Larva.
Oral Surface of Mandible of Mature Larva.
Lateral View of Head of Mature Larva
Lateral View of Mature Larva

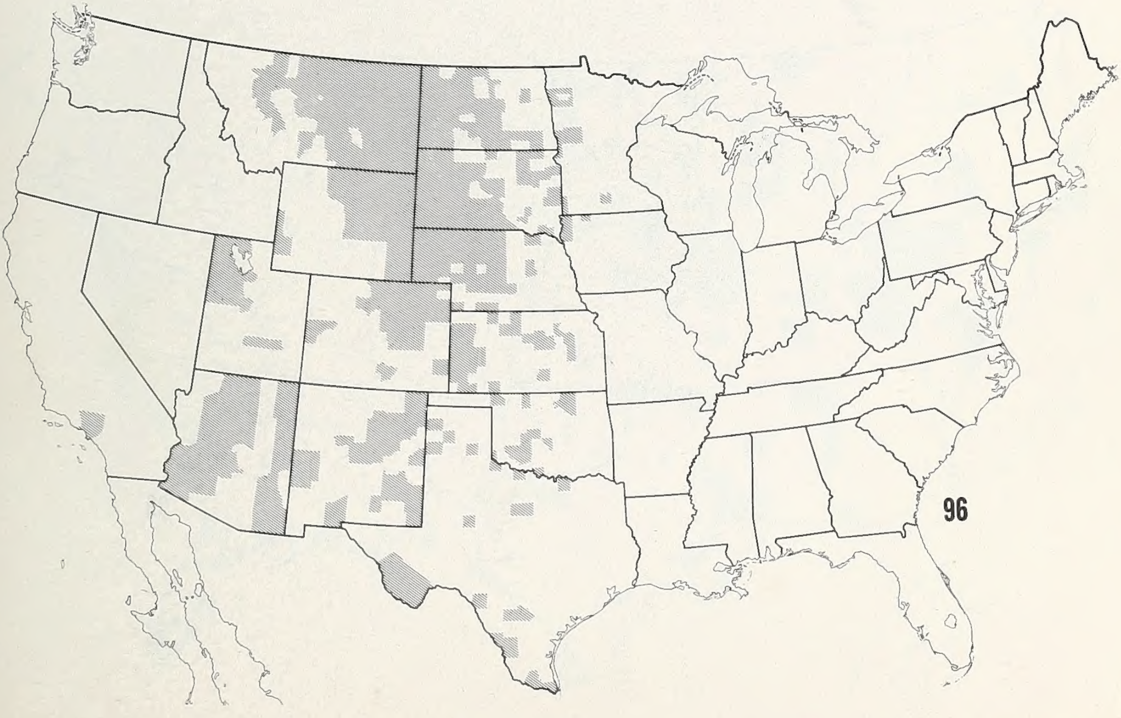
Sesamia cretica larva greatly enlarged (after Berg)

DISTRIBUTION OF RANGE GRASSHOPPERS

Oedaleonotus enigma (Scudder)

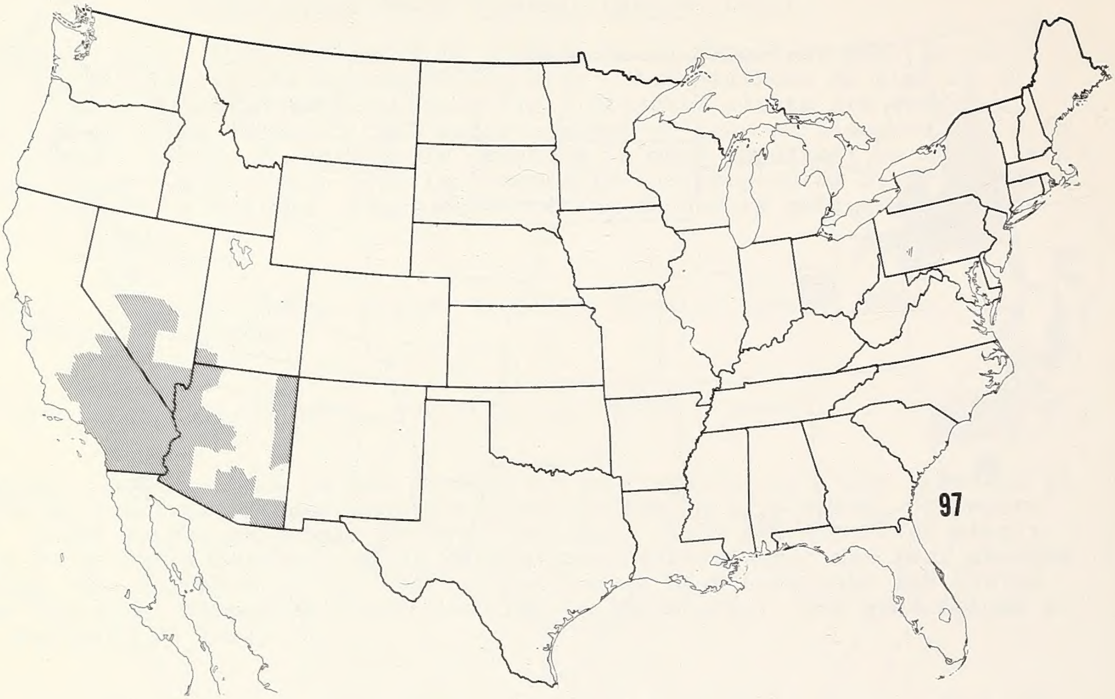


Opeia obscura (Thomas)



DISTRIBUTION OF RANGE GRASSHOPPERS

Orphulella compta Scudder



Orphulella pelidna (Burmeister)